

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/B2005/000239

International filing date (day/month/year)
01.02.2005

Priority date (day/month/year)
03.02.2004

International Patent Classification (IPC) or both national classification and IPC
F04D29/32, F04D29/70

Applicant
SPAL AUTOMOTIVE S.r.l.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/IB2005/000239

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/IB2005/000239

10/550279

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	

Inventive step (IS)	Yes: Claims	1-11
	No: Claims	

Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1 : WO 03/010438 A (SPAL S.R.L; SPAGGIARI, ALESSANDRO) 6 February 2003
(2003-02-06)

D2 : FR 2 815 676 A (FAURECIA INDUSTRIES) 26 April 2002 (2002-04-26)

D3: DE 39 41 612 A1 (BEHR GMBH & CO, 7000 STUTTGART, DE; BEHR GMBH &
CO, 70469 STUTTGART, D) 20 June 1991 (1991-06-20)

- 2.** The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document) an axial fan 1 in which an impeller 3 comprises a hub 11, motor-powered so that it rotates about its own central axis in a predetermined direction of rotation, and a plurality of blades 15 extending from the hub 11 in directions transversal to the axis, the hub 11 having a cup shape and being formed by a bottom wall 12 and a ring-shaped side wall 13; the bottom wall 12 having a plurality of long ribs 24 arranged in a radial direction and extending in height towards the hub 11 cavity, each of the ribs 24 abutting on an internal face of the ring-shaped side wall 13 and delimiting together with said ring-shaped side wall 13 a corner area of the bottom wall 12 positioned in front of the rib 24 with reference to the direction of rotation; wherein through-holes 25 are present, for discharging any debris, in particular water, sand, soil or sludge, from the hub 11 cavity to the outside of the hub 11.

The subject-matter of claim 1 differs from this known axial fan in that **each corner area** has a through-hole 25.

The subject-matter of claim 1 is therefore new (Article 33(2) PCT).

- 3.** The problem to be solved by the present invention may be regarded as to provide an improved axial fan which is reliable even when operating in particularly difficult

environmental conditions.

The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step (Article 33(3) PCT) because, although

-) documents D2 and D3 disclose axial fans which are provided with through holes in cup shaped hub, designed for ventilation, but **suitable for** discharging debris, and

-) document D1 discloses through holes which are designed to channel out condensate formed in the hub,

through holes formed in the corner areas (as defined in claim 1) are neither disclosed nor suggested in any of the prior art document of the search report.

4. Claims 2-11 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.
5. Furthermore, contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 to D3 is not mentioned in the description, nor are these documents identified therein.

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